

MATH CAMPPP 2011 GEO-HUNT - KEMPENFELT

Geocaching is an outdoor sporting activity in which the participants use a Global Positioning System (GPS) receiver or mobile device and other navigational techniques to hide and seek containers, called "geocaches" or "caches", anywhere in the world. (Wikipedia)

A **scavenger hunt** is a game in which the organizers prepare a list defining specific items, using which the participants — individuals or teams — seek to gather all items on the list — usually without purchasing them — or perform tasks or take photographs of the items, as specified. (Wikipedia)

Cache	Coordinates	Heading	Clue	Solution
1	44.382210 -79.584106	98° E	I am a square inside a circle. What fraction of me is mostly covered in moss?	3/4
2	44.382771 -79.585648	108° E	Each segment has 15 of "these" in parallel. What are "these"?	Rails/Spindles
3	44.381233 -79.587770	42° N	I look like two sets of base ten blocks. Given their perimeters as constants, are both sets maximized for area?	No 10x 11 is, but 8 x 12 is not.
4	44.382484 -79.584045	38° E	I have a greater than and less than symbol. I also have two red semi-circles. Which shape is my green part?	circle
5	44.382374 -79.585526	245° SW	I'm spherish, I sit on a cylinder, attached to a two-dimensional shape, sitting on rectangular prism which sits on a larger rectangular prism. What is the name of the two-dimensional shape that I sit on?	octagon
6	44.381519 -79.584595	300° W	From your vantage point, looking at one set of green shapes bounded by red, if you were to graph what you see, what will be smaller, the x-axis or the y-axis?	y-axis
7	44.382999 -79.584099	62° NE	What is the sixth letter of my name?	R
8	44.382534 -79.585289	328° NW	My second floor has six triangular prisms that sit like hats on second floor windows/doors. What is the name of the building?	Mardon Lodge
9	44.381531 -79.583595	247° SW	Let x represent the number of parallel lines on one side and let y represent the number of parallel lines on the other. What is the value of $ x-y $	2
10	44.383152 -79.584167	303° W	"White Birch" or "Betula Papyrifera" ... which is larger?	White Birch
11	44.382221 -79.585220	189° S	There are three of me here and I keep you from stumbling at night. What shape am I?	cylinder
12	44.381088 -79.584061	203° S	I'm blue...da ba dee, da ba daa....How many sides do I have?	7
13	44.382801 -79.584717	217° S	I am a flying parabola...what am I?	Horseshoe
14	44.381886 -79.585777	115° E	I am triangular made of squares. What is my area if one square is a unit?	9 square units
15	44.380852 -79.584091	183° S	I can be used for a game of Limbo! There are a number of different levels. If I can only complete two of those levels, what fraction of the game have I completed?	1/3
16	44.382988 -79.585670	264° SW	The limit as x approaches me is heat. What am I?	Fire Pit
17	44.381699 -79.585907	114° E	I look like two sets of base ten blocks. What is the area of one of these sets?	A=110 10 x 11
18	44.380310 -79.584183	110° E	I am a number. If I were expressed in kilometers, how many centimeters would I therefore represent?	60 000 cm